REMARKS

Reconsideration and allowance of the above-referenced application are requested.

Upon entry of this amendment, claims 7-30 and 37-60, as amended, are pending in the application. Claims 25-30, 43, and 44 have been allowed.

Applicants note that claims 45-60, added in the Response filed on October 1, 2001, were not considered in the action.

Section 103 rejections

Claims 7-24 and 37-42 were rejected under 35 U.S.C. 103(a) as being allegedly unpatentable over Imahashi et al. (US Patent No. 5,413,958) in view of Celler et al. (US Patent No. 4,406,709).

As noted in the action, Imahashi et al. do not teach using a vacuum to hold the lower surface of a substrate during irradiation.

Celler et al. disclose using a vacuum chuck to hold a substrate during irradiation in one line of the patent (column 6, line 40). Celler et al. do not provide any description of the force of the vacuum holding the substrate and does not disclose using the vacuum chuck to flatten the substrate. Furthermore, Celler et al. do not describe the physical

characteristics, such as the surface roughness, of the holding surface of the vacuum chuck.

Consider exemplary independent claim 7, as amended, which recites in relevant part:

> "...setting said substrate onto a stage having a surface roughness of 5 μm or less in such a manner that a lower surface of said substrate is in contact with said stage;
> flattening said substrate by vacuum-sucking said lower surface of said substrate; and
> irradiating said semiconductor film with a laser beam having a cross section which is elongated in one direction while relatively moving said substrate with respect to said laser beam, and while vacuum-sucking said lower surface of said substrate."

Neither Imahashi et al. nor Celler et al., either alone or in combination, teaches or suggests using a vacuum to flatten a substrate onto a stage having a surface roughness of 5 μm or less and then irradiating a semiconductor film on the substrate.

Accordingly, Applicants submit that independent claims 7, 10, 13, 16, 19, 22, 51, 56 and 57, as amended, and their dependencies are allowable.

Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: 4/10/02

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VERSION TO SHOW CHANGES MADE

Claims 7, 10, 13, 16, 19, 22, 51, and 56 have been amended as follows.

7.(Amended) A method of manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film over an upper surface of a substrate;

setting said substrate onto a stage having a [flat] surface roughness of 5 μm or less in such a manner that a lower surface of said substrate is in contact with said stage;

flattening said substrate by vacuum-sucking said lower surface of said substrate; and

irradiating said semiconductor film with a laser beam having a cross section which is elongated in one direction while relatively moving said substrate with respect to said laser beam, and while vacuum-sucking said lower surface of said substrate.

10.(Amended) A method of manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film over an upper surface of a substrate;

setting said substrate onto a stage having a [flat] surface roughness of 5 μm or less and at least one suction inlet in such a manner that a lower surface of said substrate is in contact with said stage;

flattening said substrate by vacuum-sucking said lower surface of said substrate; and

irradiating said semiconductor film with a laser beam having a cross section which is elongated in one direction while relatively moving said substrate with respect to said laser beam, and while vacuum-sucking said lower surface of said substrate.

13.(Amended) A method of manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film over a lower surface of a substrate;

heating said semiconductor film;

setting said substrate onto a stage having a [flat] surface roughness of 5 μm or less in such a manner that a lower surface of said substrate is in contact with said stage;

flattening said substrate by vacuum-sucking said lower surface of said substrate; and

irradiating said semiconductor film with a laser beam having a cross section which is elongated in one direction while

relatively moving said substrate with respect to said laser beam, and while vacuum-sucking said lower surface of said substrate.

16.(Amended) A method of manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film over an upper surface of a substrate;

heating said semiconductor film;

setting said substrate onto a stage having a [flat] surface roughness of 5 μm or less and at least one suction inlet in such a manner that a lower surface of said substrate is in contact with said stage;

flattening said substrate by vacuum-sucking said lower surface of said substrate; and

irradiating said semiconductor film with a laser beam having a cross section which is elongated in one direction while relatively moving said substrate with respect to said laser beam, and while vacuum-sucking said lower surface of said substrate.

19.(Amended) A method of manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film over an upper surface of a substrate;

heating said substrate to crystallize said semiconductor film;

setting said substrate onto a stage having a [flat] surface roughness of 5 μm or less in such a manner that a lower surface of said substrate is in contact with said stage;

flattening said substrate by vacuum-sucking said lower surface of said substrate; and

irradiating the crystallized semiconductor film over said substrate provided on said stage with a laser beam having a cross section which is elongated in one direction while relatively moving said substrate with respect to said laser beam, and while vacuum-sucking said lower surface of said substrate.

22. (Amended) A method of manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film over an upper surface of a substrate;

heating said substrate to crystallize said semiconductor film;

setting said substrate onto a stage having a [flat] surface roughness of 5 μm or less and at least one suction inlet in such

a manner that a lower surface of said substrate is in contact with said stage;

flattening said substrate by vacuum-sucking said lower surface of said substrate; and

irradiating the crystallized semiconductor film with a laser beam having a cross section which is elongated in one direction while relatively moving said substrate with respect to said laser beam, and while vacuum-sucking said lower surface of said substrate.

51. (Amended) A method of manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film over an upper surface of a substrate;

setting said substrate onto a stage having a [flat] surface roughness of 5 μm or less in such a manner that a lower surface of said substrate is in contact with said stage;

flattening said substrate by vacuum-sucking said lower surface of said substrate; and

irradiating said semiconductor film with a laser beam while relatively moving said substrate with respect to said laser beam, and while vacuum-sucking said lower surface of said substrate.

56. (Amended) A method of manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film over an upper surface of a substrate;

heating said semiconductor film;

setting said substrate onto a stage having a [flat] surface roughness of 5 μm or less in such a manner that a lower surface of said substrate is in contact with said stage;

flattening said substrate by vacuum-sucking said lower surface of said substrate; and

irradiating said semiconductor film with a laser beam while relatively moving said substrate with respect to said laser beam, and while vacuum-sucking said lower surface of said substrate.